

Horseman's Handy Book

FULLY ILLUSTRATED



How to Tell the Age of the Horse

Representation of all Blemishes
Standard Recipes. Etc.

Practical Hints to Purchasers.

HORSEMAN'S HANDY BOOK

Fully Illustrated

THE AGE OF THE HORSE
AS INDICATED BY THE TEETH

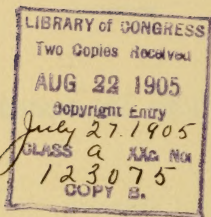
A representation of all blemishes
the horse is heir to, together
with useful remedies for
its diseases.



PRACTICAL HINTS TO PURCHASERS

John Grant Keeler
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THE very practical interest which attaches itself to this subject leads us to believe that we have in this little book something that no horseman, or intending purchaser of a horse, can well afford to be without.

As everyone knows, the principal guide to the age of the horse, lies in the indications given by the teeth.

From birth to the sixth year the structural alterations taking place in the teeth each year are so pronounced that there is rarely any question as to the age of a horse during this period; but, after the mouth is fully completed, the age can only be approximately determined by the receding gums, the effect of wear in altering the teeth, and various other such signs. Hence after six years old, a correct opinion can only be formed by those who have given the subject some time, thought and trouble, and it is the aim of this book to spare you as much of this trouble and time as we possibly can by putting the subject before you in the most practical light possible.

Back Teeth, Molars or Grinders.

These teeth are seldom referred to, because their position at the back of the mouth renders their examination inconvenient, and often quite difficult. Nevertheless, it is useful to be acquainted with the structural changes of these teeth in cases where

there may be doubt as to the true age, as indicated by the incisors, or front teeth.

The foal is born with two, sometimes three, temporary molars in each jaw. About twelve months old another molar, a permanent tooth, appears and, before the completion of the second year, a fifth molar, also a permanent tooth, shows itself. About two the front temporary molars are replaced by permanent teeth, and between three and four the remaining, or third temporary molar is similarly replaced, and about the same time the last, or sixth molar begins to appear. Thus, when the mouth is completed, there are six permanent molars in each jaw, or twenty-four in all. The mouth is complete at four years old, and these teeth are rarely considered in determining age after this period.

Front Teeth, or Incisors.

The front teeth, or incisors, are six in number in each jaw, when the mouth is complete; and, in the rear of these, in males, there is usually added one very peculiar pointed tooth on each side in each jaw, called a tusk (also bridle teeth). Though there are two crops of incisors, there is but one of tusks.

These teeth, though they begin to appear at about four years old, are not usually fully developed until the last permanent incisor is more or less up.

We shall confine ourselves to the lower jaw exclusively, as the structural changes

which take place in the upper, are so nearly similar.

HOW TO DISTINGUISH BETWEEN TEMPORARY AND PERMANENT INCISORS: Temporary, or milk, are easily distinguished from permanent incisors by the following well marked signs, *i. e.*, they are smaller, whiter, and have more distinct necks. They are smooth externally, and grooved on the inside. Their fangs or roots are small and have but slight attachment to the gums. These teeth are arranged in something like a semi-circle.

The permanent teeth are larger, broader, wider in their necks, grooved externally and smooth internally, and more discolored than milk teeth.

Temporary, or Milk Incisors.

The foal is born with his teeth in a rudimentary state in the gums. At periods during the first ten months, the defferent temporary incisors appear. The yearling has all six incisors, but several well marked signs distinguish his mouth from that of the two year old. The teeth at this period show but little sign of wear. The corner teeth are mere shells, having no inner walls, and the teeth are in close apposition. They also stand somewhat wide apart at their necks because of the gradual growth of the jaw in width. (Fig. A).

THE DEVELOPMENT OF THE PERMANENT TEETH: A few months before three years old the horse sheds the two center milk

teeth, which are replaced by permanent. Thus the jaw contains, at three years old, two center permanent teeth and two milk teeth on each side. (Fig. D).

Two months or so before four, the horse sheds the next two milk teeth, which are replaced by permanent. The jaw now contains four permanent and one milk tooth on each side. (Fig. E).

A few months before five, the horse sheds the two remaining milk teeth, which are replaced by permanent. Now the jaw is complete with six permanent incisors, but the corner teeth are mere shells, having no internal wall. The absence of this wall distinguishes the five from the six year old mouth. (Fig. F).

A few months before six, the inner wall of the corner teeth has grown up level with the outer wall.

The mouth is now fully complete in incisors, and no other structural changes take place in them; and, up to six years old, we have seen that by the aid of these structural changes there can seldom be any doubt as to the age of the animal.

The Mark, or Infundibulum.

This is a peculiar hollow extending, when the tooth first comes up, about one-half inch down the temporary, and somewhat deeper down the permanent incisors. The sides and bottom of the infundibulum are lined by enamel, the same substance covering the surface of the tooth. The rest of

the tooth consists of dentine, a substance less hard than enamel and more like ivory. When an incisor first comes up, the hollow affords lodgment for the debris of food and the juices expressed from it, and soon looks black. As the tooth wears down the hollow disappears, but, the surface of dentine immediately below the original hollow, being somewhat soft, has become stained for some distance down. Thus there is still a black mark. With the further wear of the tooth, the stained portion of dentine wears away, and the "mark" is then said to be out. Thus, as may readily be seen, the "mark" is constantly changing. In explaining the structural changes from foal to the sixth year, we said nothing of the "mark," not because it had no bearing in distinguishing age during that period, but, rather because we considered the structural changes of much more importance. Between three and five years old the "marks" are very plain in the permanent incisors. (Figs. D, E and F). At six the "marks" are wearing out of the two center, which come up at three years old; they are plain in the next two, and perfectly fresh in the two corner teeth. At seven the "marks" have disappeared from the center teeth, are wearing out of the next two, and are distinct and plain only in the corner teeth. At eight the "marks" have disappeared from all but the corner teeth, in which they are becoming indistinct. At nine the "marks" are not usually found in any of the teeth.

For about two years after the "mark" has disappeared in each tooth, there may still be seen in the form of a star a trace of the enamel which lines the bottom of the original hollow, and which underlies it for some depth.

The star, of course, decreases in size with the wear of the teeth. About twelve or thirteen the last traces of the enamel have usually disappeared even from the corner teeth, but it may remain sometime longer. Many casual circumstances, however, cause a certain degree of deviation from these rules.

The time which the "mark" takes to wear out will vary in different horses according to the hardness, or otherwise, of the teeth, and according to the nature of the food on which the animal is kept.

In grass-fed horses the "mark" usually remains at least a year, and sometimes two years longer than those fed on hard food. Again, in parrot-mouthed horses—that is, where the upper overlaps the lower jaw—the "marks" may remain for many years. On the other hand, some horses which have a trick of biting the manger, (cribbing) wear down their teeth very rapidly and, therefore lose their "marks" very early. Horses fed on salt marshes where the sea sand is washed up among the grass, or on sandy plains or meadows, are affected by the increased friction on the teeth caused by the sand. Most of these and other causes of

irregularity of wear which might be mentioned, are at once apparent to a careful and accurate observer, and will scarcely prevent his forming nearly a correct opinion of the age.

The upper incisors are considerably larger and longer than the lower, and the infundibulum is nearly twice as deep; the "marks," therefore, remain longer than in the lower teeth. We mention this in passing, lest the reader should be misled if he should, by chance, refer to the indications given by the upper teeth, to corroborate or correct any opinion as to age, about which he may be in doubt from the appearance of the lower jaw. The mouth, taken as a whole, is broader at seven years old than at any other period; after this it gradually narrows with age.

Bishoping.

"Marks" on the incisors are occasionally simulated by means of caustic or hot iron by dealers, with the view of deceiving the unwary. This fraud is readily detected because, though it is easy to make a black mark on the crown of the teeth, yet it is impossible to restore the wall of pearly enamel which, as has been explained, surrounds the natural "mark," or infundibulum.

The Fang-hole. Root-hole. or "Secondary Mark."

About nine years old, in consequence of the wearing down of the teeth, a slight trace of the fang-hole appears, usually in the center

teeth, and somewhat later in the other teeth. It is indicated by a slight discoloration of the tooth at the above point. There is, however, no actual hole because, with advancing years, the upper part of the original cavity has become filled up with a sort of spurious dentine, which is more yellow than the true material, of which the body of the tooth consists. As age increases, this indication of the fang-hole—which is sometimes called the “secondary mark”—becomes rather more plain. It, however, affords no reliable data by which to judge of the age, and is only mentioned in this place lest the reader should mistake it for the remains of the infundibulum. The enamel, it will be remembered, is pearly-white, while the mark of the fang-hole is brownish-yellow.

Further Changes Indicating the Age.

It will be seen that about nine the “marks” entirely fail us, and, indeed, after seven or eight they can hardly be said to afford any reliable data. From eight years old and upwards the best indications of the age are given by the general alterations which take place in the shape of the teeth from wear and in the closing of the mouth.

Lateral Breadth, Etc.

The teeth, originally, are broad laterally at their upper surfaces, otherwise called their crowns, or tables, and thin from front to rear. They narrow gradually toward their necks and fangs, or roots; hence, as their

upper surfaces wear off, the teeth become narrower year by year. In very old horses there is often a positive interval between the teeth, and they appear like sticks in the jaw.

The amount of wear on the upper surface of the teeth is greater in the young mouth than it is afterwards because, in youth the teeth meet more fairly than in after years. It gradually decreases as years increase, because, the teeth do not meet so directly, but, on the contrary, project more and more forward and something like two parallel lines. For example, a quarter of an inch will usually be worn off the surface between five and six years old, whilst, probably, not more than that quantity will be worn off between twenty and twenty-five years old.

Triangularity.

A further very well marked indication of increasing age is given by increasing depth from front to rear in the upper surfaces, or crowns, of the teeth; further wear causes the crowns of the teeth to assume a triangular form. The teeth, though they diminish in lateral breadth, increase in thickness from front to rear all the way from the crown to the fang. At six, and up to eight years old, the teeth are all broad laterally at their upper surfaces. Up to this time the exact year, as the reader will recollect, is pretty well known by the "marks." At nine, when the "marks" fail, the alterations in the crown surface or table come to our aid. The two center teeth, which come up at three, become somewhat triangular; at ten

the two next teeth show similar signs; at eleven the corner teeth have become somewhat triangular; at twelve the triangularity has increased in all the teeth. This alteration continues to increase in all the teeth until, in very old horses, the depth from front to rear exceeds the lateral width of the teeth.

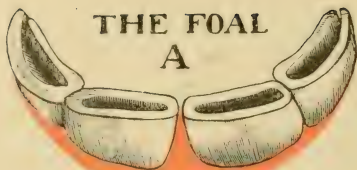
Length.

Again, as age increases, the teeth, notwithstanding they really wear down, become apparently longer. This effect is due to the fleshy parts of the gums receding faster than the teeth wear down. In extreme age, however, when the gums have receded as far as they can, the effect of wear causes the teeth to become visibly as well as really shorter.

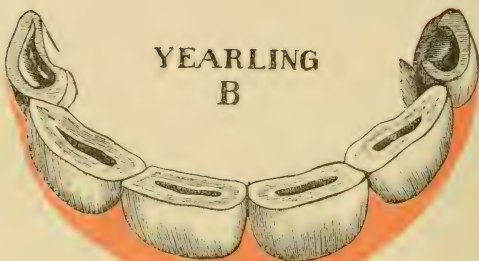
Slope.

An alteration also takes place in the position, or "slope," of the teeth, as regards their closing; this is due to the effect of wear. In the original form of the tooth its upper portion is nearly perpendicular, whilst the lower part lies in a more horizontal position. Hence, in youth the teeth meet directly, whilst in extreme age they can scarcely be said to meet at all; their stumps project forward in two almost parallel lines. Up to twelve years old there can scarcely be much difficulty in forming a correct judgment as to the age.

After that time it requires more time, practice and opportunity than most people



THE FOAL
A



YEARLING
B

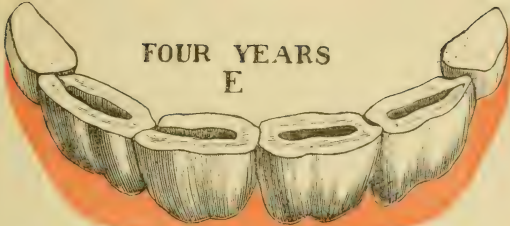


TWO YEARS
C



THREE YEARS
D

FOUR YEARS
E



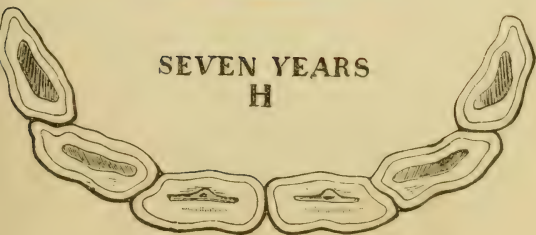
FIVE YEARS
F



SIX YEARS
G



SEVEN YEARS
H



have at their disposal to obtain the requisite knowledge. Suffice it to say, that the gums continue, year by year, to recede, the teeth becoming apparently longer and longer and really narrower, and consequently, the intervals between them increase and they project forward more and more in a straight line. About twenty-four, and in some instances a good deal sooner, the teeth which, up to this period, have apparently increased in length, begin to grow visibly shorter, because the gums are so far absorbed that they can recede no further; hence, all further wear shows its effect by diminishing the length of the teeth.

Loss of Circularity.

In the very young horse the teeth are arranged almost in a semi-circle; year by year this form decreases, until in old horses they are arranged in something like a straight line.

The Tusks.

In horses, as distinguished from mares, great assistance in determining the age is derived from the presence of tusks, which are generally wanting in the latter. The tusks usually begin to appear in a very slight degree, about three and a half or four years old; their sharp points then just pierce the gums, and they continue to grow until fully developed at about five or five and one-half years old. They do not meet like other teeth, and, therefore, do not suffer

from wear from that cause. They are affected, however, from wear in the course of mastication and, in fact, undergo greater changes than any other teeth, and so form a valuable guide as to age. The tusk is a very peculiar shaped, elongated tooth; internally it consists of dentine, and is protected on the outside only by enamel; the enamel, however, overlaps the dentine, and hence arises the sharp edge or hook of the newly developed tusk, which may be felt if the finger be brought round it from behind. Sharpness gradually wears off; after seven it has disappeared, and in each succeeding year the tusk becomes, not only rounder and blunter, but its upper portion wears off. It also appears yellow on account of the dentine becoming exposed by reason of the enamel wearing off from its exterior surface. The tusks, unlike other teeth, do not apparently increase in length with years, but become shorter and shorter; in fact, the effect of wear is greater on them than on other teeth, and is also greater than the process of the receding gums. In very old horses the tusk is very little above the level of the gums. Mares sometimes have four small rudimentary tusks.

Collateral Circumstances to be Taken Into Consideration.

In judging the age of the horse by the teeth every collateral circumstance requires to be taken into consideration—such as the form of the mouth, the way in which the

teeth meet and close on each other, the food on which the animal has been kept, any irregularity in the upper teeth which may cause increased or diminished wear on the lower teeth, and, also the habits of the horse in the stable. The teeth of animals which bite at the rack or manger whilst being cleaned, invariably present appearances of wear beyond their real age.

The body, also, presents many indications of the age which may assist us in forming an accurate opinion, and sometimes may enable us to correct an erroneous impression produced by some abnormal appearance of the teeth. The young horse is fleshy about the gums and head, and the hollow over the eye is shallow. Year by year, as age increases, the gums lose their fleshiness, the head becomes more lean and the hollow over the eye deepens; the shoulders lose much of their thickness and become finer and assume an appearance of greater length; the hind quarters in like manner lose some of their roundness, and the animal generally gains an appearance of more breeding than he had in his younger days; the back becomes more or less hollow, a result partly due to the effect of weight, especially in long bodied animals, and partly to loss of fleshiness in muscles which run along the spine. Again, as the horse becomes old, the fullness in the chin under the mouth disappears. Lastly, the general appearance of the aged horse is much influenced by the work he has done

and the treatment he has received. Age must not be judged by any one sign, but by an average judiciously struck between all the signs, and by a careful consideration of all the circumstances.

From these pages the reader will perceive that, after six years old, *i. e.*, after the structural changes in the mouth are completed, it is impossible to lay down any one single, definite rule by which the age can be ascertained. Still, with a little trouble and attention, there is no real difficulty in acquiring the knowledge of a horse's age up to a comparatively late period of his life. Such a knowledge is always valuable to an intending purchaser. Horses of eight or nine years old are still in their prime; but, from want of knowledge of the means of ascertaining the real age and from very natural distrust of what the owner may tell them, the public are shy of buying such horses; and, consequently, they may generally be obtained far below their real value.

The author is well aware of the popular feeling in favor of young horses; but, in his opinion, a moderately aged horse is generally a much more useful, presently available, and, therefore, more really valuable animal than a young, untried horse with all troubles, ailments, diseases, and liability to disease, before him.

STANDARD RECIPES.

ALTERATIVE BALL.

Powdered nitre	4 drams
Tartarized antimony	1 dram
Linseed meal	1 dram

Mix. Makes one dose. One each day for a week.

ALTERATIVE POWDERS.

Nitre	4 ounces
Sulphur	4 ounces
Black antimony	4 ounces
Powdered resin	4 ounces

Mix. Dessert spoonful daily in feed.

COUGH BALL.

Powdered digitalis	$\frac{1}{2}$ dram
Powdered camphor	1 dram
Tartarized antimony	1 dram
Nitre	3 drams
Linseed meal	$\frac{1}{2}$ dram

Mix. Makes one dose. One a day.

COLIC MEDICINE.

Sweet spirits nitre	1 ounce
Laudanum	1 ounce
Linseed oil	8 ounces

Mix. Makes one dose.

CATHARTIC BALL.

Powdered aloes	6 drams
Powdered ginger	2 drams
Mix. Makes one dose. Give fasting.	

COOLING LOTION.

Sal ammoniac	1 ounce
Vinegar	1 ounce
Spirits of wine	2 ounces
Water	$\frac{1}{2}$ pint
Mix. Use twice daily.	

COLIC DRENCH.

Nitre (spirits)	6 ounces
Assafoetida	2 ounces
Laudanum	1 ounce
Whiskey	1 pint
Warm water	1 pint
Mix. Makes one dose.	

FEVER BALL.

Powdered nitre	4 drams
Tartarized antimony	1 dram
Camphor	2 drams
Mix. Makes one dose. One a day.	

HOOF DRESSING.

Tar	¼ pound
Beeswax	¼ pound
Lard	1 ½ pounds
Glycerine	3 ounces

Melt and mix carefully.

INDIGESTION POWDERS.

Arsenic	5 grains
Sulphate of iron	2 drams
Nux vomica	10 grains
Bicarbonate of soda	1 dram
Nitrate of potash	1 dram

Mix. As one powder, morning and evening, for ten days.

LAXATIVE BALL.

Powdered aloes	4 drams
Powdered nitre	2 drams
Powdered ginger	1 dram

Mix. Makes one dose.

MIXTURE FOR WORMS.

Oil of turpentine	2 ounces
Oil of linseed	10 ounces

Mix. Makes one dose. Give fasting.

SPRAIN LOTION.

Alcohol	2 ounces
Acetic acid	2 ounces
Oil of origanum.....	2 drams
Armenian Bole.....	4 drams
Water	6 ounces

Mix. Apply once daily.

TONIC BALL.

Powdered sulphate of iron	4 drams
Camphor.....	1 dram
Gentian	1 dram

Mix. Makes one dose. One a day for ten days.

TONIC BALL.

Sulphate of quinine.....	20 grains
Sulphate of iron	1 dram
Powdered gentian.....	2 drams

Mix. Makes one dose. One daily for two weeks.

WORM BALL.

Powdered gentian.....	2 drams
Powdered quassia.....	2 drams
Powdered camphor.....	2 drams
Sulphate of iron	2 drams

Mix. Makes one dose. One each day, fasting, for three days.

SUGGESTIONS TO THE HORSE BUYER

A broad, well developed chest suggests lung power and a capacity to endure long drives.

Select a horse short between the pastern joint and hoof, to avoid ringbone and sprains.

A loose, large hock-joint indicates a tendency to spavin and thorough pin.

A narrow forehead, with eyes close together, indicates a tendency to balkiness and bad disposition.

Select a horse with a heavy tail, as the tail is always an indication of the size of the back bone, which should be short.

The strength and endurance of the horse depends largely upon well formed quarters, short barrel, ribbed close to the hip.

Roan, bay, in different shades, to brown are more noted for endurance, while the light chestnut and whites usually have less capacity for extraordinary demands.

A flat, broad forearm, with straight front limbs, indicates less danger of becoming knee-sprung.

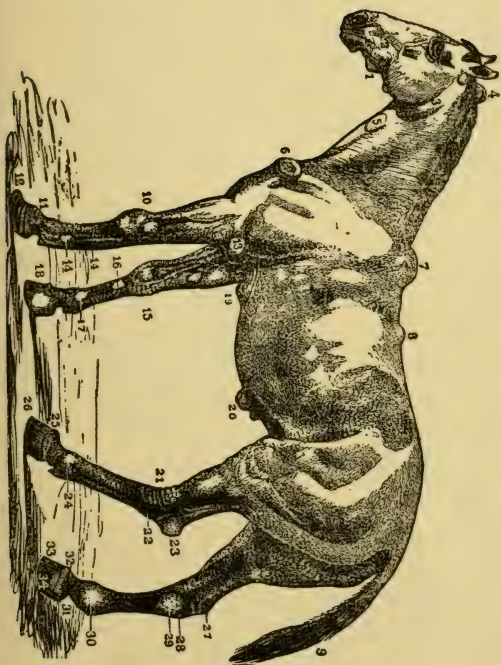
A broad, open nostril, with a wide muzzle, indicates ability to take a large supply of air into the lungs, and is a protection against heaves and other impairment of the horse's wind.

A broad, well developed hoof at the heel is less liable to contract or quarter-crack.

FIGURE OF A HORSE.

Showing the External Diseases.

- (1) Dental Fistula. (2) Salivara Fistula.
(3) Mumps, Parotitis. (4) Swelling of
the Neck. (5) Veinous Fistula. (6)
Fungus, caused by pressure of the
harness. (7) Fistulous Withers. (8)
Injuries caused by pressure of the
saddle. (9) Rat's-tail. (10) Fungus on
the knee. (11) Crown-scab. (12, 12)
Contraction of the Hoof. (13) Tumor
at the point of the Elbow. (14, 14)
Curb. (15, 21) Malandres. (16)
Exostosis. (17, 22, 24) Bursal Enlarge-
ments. (18) Timber-toe. (19) Injury
from pressure of the girth. (20, 20)
Warts. (23, 27) Capped Hock. (25)
Ringbone. (26, 33, 34) Cracked Hoof,
Sand Crack. (28, 29) Spavin. (30, 31)
Cracked Heel, Grease. (32) Coronal
Fistula.



STABLE SUPPLIES FOR ONE HORSE.

FOR THE HORSE.

Halters, two—leather and web----	\$ 2 00
Blankets—day, \$2.50; night, \$1.50; sheet, \$1.50; cooler, \$3.75; roller, \$1.50-----	10 75
Hood -----	2 00
Bandages—two sets-----	2 00
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	\$16 75

FOR GROOMING.

Curry-comb, 75; body brush, \$3--	\$3 75
Dandy brush-----	50
Mane comb, 30c.; rub cloths, 60c.--	90
Sponge, 50c.; scraper, 25c.-----	75
Scissors, \$1.00; hoof-pick, 30c.----	1 30
	<hr/>
	\$7 20

FEEDING, CLEANING, ETC.

Two-quart measure-----	\$ 25
Pails, two, at 45c.-----	90
Two forks, \$1.25; broom, 50c.; shovel, 50c.; stall cleaner, 50c.; basket, 25c.-----	3 00
Soap-----	75
	<hr/>
	\$4 90

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